

Amendments to the Specification:

Please replace the Abstract with the following:

An ejector ~~capable of generating~~ is configured to generate a high negative pressure capable of sucking and conveying fine metal pieces or chips, such as machinings or cuttings, for example, ~~in a case of when~~ using the ejector as a driving source for a fluid conveyor, ~~comprising~~ The ejector includes a convergent-divergent nozzle having a throat formed between a suction port and a discharge port, ~~in which jet~~ Jet blowing holes are formed in the convergent-divergent nozzle ~~for jetting~~ to direct a jet stream from ~~the upstream~~ of the throat to ~~the downstream~~ of the throat, thereby forming a negative pressure, ~~wherein pressure~~ Pressure control holes are ~~formed being~~ opened open to the downstream of the jet blowing holes ~~for communicating and are~~ configured to communicate with a pressure space at a pressure level higher than a negative pressure formed by the jet stream and lower than a static pressure of the jet stream and the inside of the convergent-divergent nozzle.

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Please replace the paragraph beginning on line 14 of page 1 with the following:

In recent years, numerical control (NC) systems have been progressed in machine tools for cutting or machining metal works and most of processes from setting of works and machine tools to the completion of the cutting or machining operation have been conducted automatically.

Please replace the paragraph beginning on line 20 of page 1 with the following:

In this case, since a great amount of cuttings (e.g., a lot of machining chips) are discharged, if left as they are, they not only hinder the cutting or machining operation but also twine around the works or machine tools under rotation, to injure the works or scatter the cuttings to the surroundings (or the machining chips around the machine).

Please replace the paragraph beginning on line 1 of page 2 with the following:

In view of the above, it has been adopted, upon cutting or machining works, a method of flowing cuttings or machining chips together with lubricants and cutting oils (e.g., coolant) used as cooling liquids into buckets located below machine tools or the machine, recovering the cuttings or the machining chips in on the stream of the cutting oils (e.g., coolant) recovered from the buckets by way of waste oil flow channels or flumes (troughs) and then separating the cutting oils (e.g., coolant) and the cuttings or machining chips by solid/liquid separation.

Please replace the paragraph beginning on line 9 of page 2 with the following:

The recovered cutting oils (e.g., coolant) are circulated and re-utilized but they have to be disposed finally as industrial wastes which is not desirable in view of environmental protection. Then, dry process of conducting the cutting or machining operation by using super hard bites with no use of cutting oils (e.g., coolant) has become predominant in recent years.

Please replace the paragraph beginning on line 16 of page 2 with the following:

In this case, generally, the cuttings or machining chips are at first blown out by an air stream jetted out from an air nozzle (e.g., a compressed air stream) disposed near the tool and dropped into a bucket located below a machine tool or machine, and then cuttings or machining chips are conveyed to a predetermined place for recovery in a plant by way of a conveying channel or route comprising a plurality of belt conveyors connected to each other.

Please replace the paragraph beginning on line 7 of page 3 with the following:

Further, it also involves a problem of tending to cause failure when fine cuttings or chips and the likes clog the mechanical driving portion of the belt conveyor.

Please replace the paragraph beginning on line 11 of page 3 with the following:

When a pneumatic conveyor is used instead of the belt conveyor and cuttings or machining chips are sucked like in a vacuum cleaner and then conveyed on an air

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stream, since the conveying path itself is a pipe, it can be arranged in a free layout. However, when a mechanical vacuum pump is used as a driving source for the pneumatic conveyor, it also requires increased installation cost and running cost and there is also a worry that cuttings or fine chips clog the vacuum pump.

Please replace the paragraph beginning on line 20 of page 3 with the following:

Then, when an ejector is used instead of the vacuum pump, the installation cost is decreased, both of the driving source and the conveying path are free from the provision of mechanical driving portions at all, and high pressure or compressed air referred to as "plant air" supplied from pipelines in the plant may be used as the energy therefor, so that the running cost can also be decreased.

Please replace the paragraph beginning on line 3 of page 4 with the following:

However, since the ejector has an extremely low negative pressure compared with the reciprocal, rotational or centrifugal mechanical vacuum pump, although it may be used as a driving source for a pneumatic conveyor that conveys light-weight material such as powder, it can not be practical as a driving source for a pneumatic conveyor that conveys fine metal pieces such as cuttings or machining chips.

Please replace the paragraph beginning on line 20 of page 4 with the following:

In view of the above, ~~in~~ if an ejector is used, for example, as a driving source for a fluid conveyor, etc., the present invention ~~intends~~ is configured to increase the

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negative pressure and increase the ejector power, by improving the conveying efficiency, serving to energy saving and also reducing the running cost.

Please replace the paragraph beginning on line 9 of page 8 with the following:

Since the atmospheric pressure is higher than the negative pressure formed by the jet stream, when the inside and the outside of the convergent-divergent nozzle are in communication by way of the pressure control holes, while the external air may be sucked into the ejector, the fluid flowing in the ejector does not leak through the pressure control ~~valve~~ holes to the outside.

Please replace the paragraph beginning on line 19 of page 10 with the following:

In accordance with the fifth feature of the present invention, since the negative pressure of the ejector is high, the conveying air stream formed with the negative pressure of the ejector can suck even fine solids such as relatively heavy metal cuttings or machining chips and, when they are caused to flow into the cyclone separator, the energy of the stream forms a swirling stream in the cylindrical separation column in which air gathered to the center is exhausted to the outside, and the fine solids are collided against the circumferential wall centrifugally and dropped, and sucked fine solids can be recovered easily.

Please replace the paragraph beginning on line 8 of page 12 with the following:

In fine solid recovery apparatus 1 according to the present invention, as shown in Fig. 2, metal cuttings or machining chips (fine solids) sucked from a bucket 3 provided to a machine tool 2 are conveyed by a pneumatic conveyor 4 and then recovered.

Please replace the paragraph beginning on line 13 of page 12 with the following:

In a conveying pipeline 5 for the pneumatic conveyor 4, an ejector 6 forming a conveying air stream is intervened in which one line end is formed as a suction end 4a and the other line end as a discharge end 4b is connected to a cyclone separator 7.

Please replace the paragraph beginning on line 19 of page 12 with the following:

The cyclone separator 7 has a hopper-type cylindrical separation column 9 having an exhaust cylinder or duct 8 formed at the center. The cylindrical separation column 9 has a flow inlet 9a formed to an upper part thereof being opened in the tangential direction at the inner circumferential surface, and a recovery port 9b for dropping the cuttings or machining chips formed at the bottom of the column.

Please replace the paragraph beginning on line 2 of page 13 with the following:

As shown in Fig. 1, an ejector 6 as a driving source of the pneumatic conveyor 4 comprises a convergent-divergent nozzle 14 in which a throat 13 of a small cross sectional area having a an inner diameter of about 2.5 cm is formed between the suction port 11 connected to the conveying pipeline 5 and a discharge port 12. The cross sectional area of the nozzle is gradually contracted from the suction port 11 to the

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throat 13, and the cross sectional area of a diffuser 18 from the throat 13 to the discharge port 12 is enlarged gradually.

Please replace the paragraph beginning on line 12 of page 17 with the following:

According to the study of the present inventors, a negative pressure at about -0.2 kg/cm² is necessary in view of the difference in the difference of height and the entire length of the conveying pipeline 5 as a driving source for the pneumatic conveyor 4 for sucking and conveying metal cuttings or machining chips, so that the ejector 6 according to the present invention can be put to practical use as the driving source for the pneumatic conveyor.

Please replace the paragraph beginning on line 3 of page 18 with the following:

When the suction end 4a of the pneumatic conveyor 4 is placed in the bucket 3 of the machine tool 2, the metal cuttings or machining chips are sucked, which flow as a solid/gas mixed phase stream comprising air and cuttings or machining chips in admixture by the conveying air stream through the conveying pipeline 5, pass through the ejector 6 and reach the cyclone separator.

Please replace the paragraph beginning on line 10 of page 18 with the following:

Since the ejector 6 is a pipeline formed as the convergent-divergent nozzle 14 extending from the suction port 11 through the throat 13 to the discharge port 12, it has no driving portion as in a mechanical type vacuum pump and, accordingly, it is free from

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the worry of causing clogging by the cuttings or machining chips which would invite injury or failure.

Please replace the paragraph beginning on line 24 of page 18 with the following:

The swirling stream forced air to the central area and exhausted it from the exhaust cylinder 8 to the outside, and cuttings or machining chips conveyed on the air were ~~collided~~ centrifugally collided with against the circumferential wall of the cylindrical separation column 9, guided to the recovery port 9b and then dropped into drum can 12 placed just below the port.

Please replace the paragraph beginning on line 6 of page 19 with the following:

Fig. 4 shows another ejector according to the present invention. Portions in common with those in Fig. 1 and Fig. 2 carry identical reference numerals, for which detailed explanation will be omitted.

Please replace the paragraph beginning on line 11 of page 22 with the following:

While descriptions have been ~~made to~~ given for a case of using the ejector 6 as a power source for the pneumatic conveyor 4, the present invention is not restricted only thereto but it may be applicable as a driving source of a fluid conveyor that hydraulically conveys lumps of burnt ashes such as clinkers, liquid wastes in the form of sludges and any other materials.

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Please replace the paragraph beginning on line 4 of page 23 with the following:

A conveying pipeline 34 comprises an upper stream suction pipe 34_{in} extending from the lower portion of the temporary storage tank 32 to the suction port 11 of the ejector 6 46 and a downstream delivery pipe 34_{out} connected with the discharge port 12.

Please replace the paragraph beginning on line 11 of page 24 with the following:

Further, when compared with a case of using a volute pump as a driving source for the fluid conveyor, the maximum suction stroke or head was about 3 m in the volute pump since gap is present between the vanes and the casing, whereas a suction stroke or head of 8 m was obtained in a case of using the ejector 6 according to the present invention.